

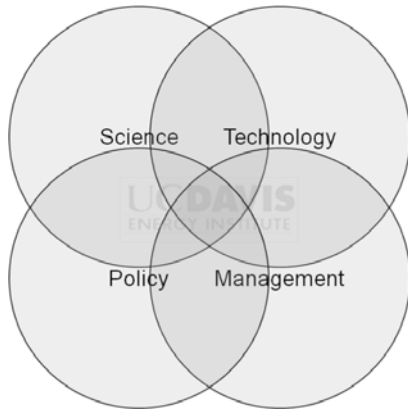
# UC Davis – Chevron Joint Research Agreement

**Joint IEPR and Transportation Committee Workshop on  
Biofuels in California**

**13 January 2009**

**California Energy Commission, Sacramento, California**

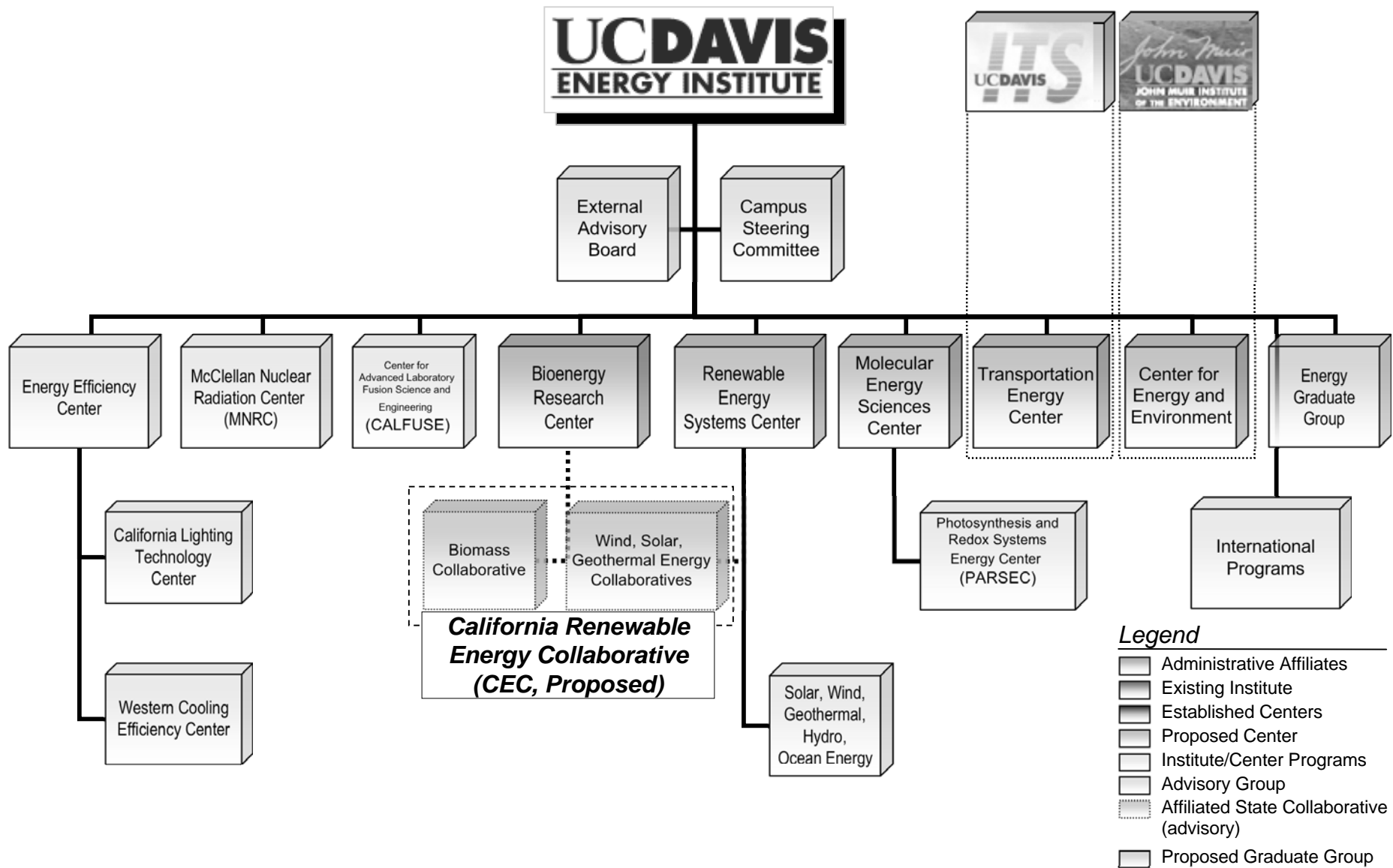
**Bryan M. Jenkins, Professor  
Director, UC Davis Energy Institute**



# UC Davis Energy Institute

- Established Fall 2007
- Campus-wide program
  - Administered through Office of Research with multi-College support
- Created to focus and bring together campus strengths in energy research, education, and outreach, and to build new interdisciplinary programs and capabilities
- Proposed Energy Graduate Group for advanced degrees in Energy Science and Technology and Energy Policy and Management







# UC Davis – Chevron

## Joint Research Agreement

Biofuels Research: \$25 million/5 years

**Chevron  
Technology  
Companies**

**and the Richmond  
Technology Center**

### Research Projects and Equipment Grants

**41 Funded Projects**

\$15,000,000

multi-year projects

**Equipment Grants**

\$1,250,000

Currently in 3<sup>rd</sup> year of  
program



# Leverages Programs at UC Davis in Biomass, Bioenergy, Biofuels, and Bioproducts Research

**UC Davis has long history of biomass and bioenergy research:**

- Thermochemical conversion processes
  - Combustion, gasification, pyrolysis with applications to power and heat generation, syngas production
  - Inorganic material behavior, trace elements
  - Feedstock modifications
- Biochemical conversion processes
  - Anaerobic digestion, solid state fermentation, composting
  - Fermentation systems
  - Enzymatic processing
  - Biogas power systems, biomethane, hydrogen, liquid fuels
- Biofuels production and processing
  - Alcohols, biodiesel, other liquids
  - Engine performance testing
  - New sources, crops, molecular and cellular biology, photosynthesis, enzymes
- Bioproducts
  - Composite materials, chemicals, others
- Logistics and economics, integrated systems, resources, harvesting systems, systems analysis and modeling
- Environmental and social impacts, life cycle assessment, policy
- Interdisciplinary, multiple departments and institutes across campus

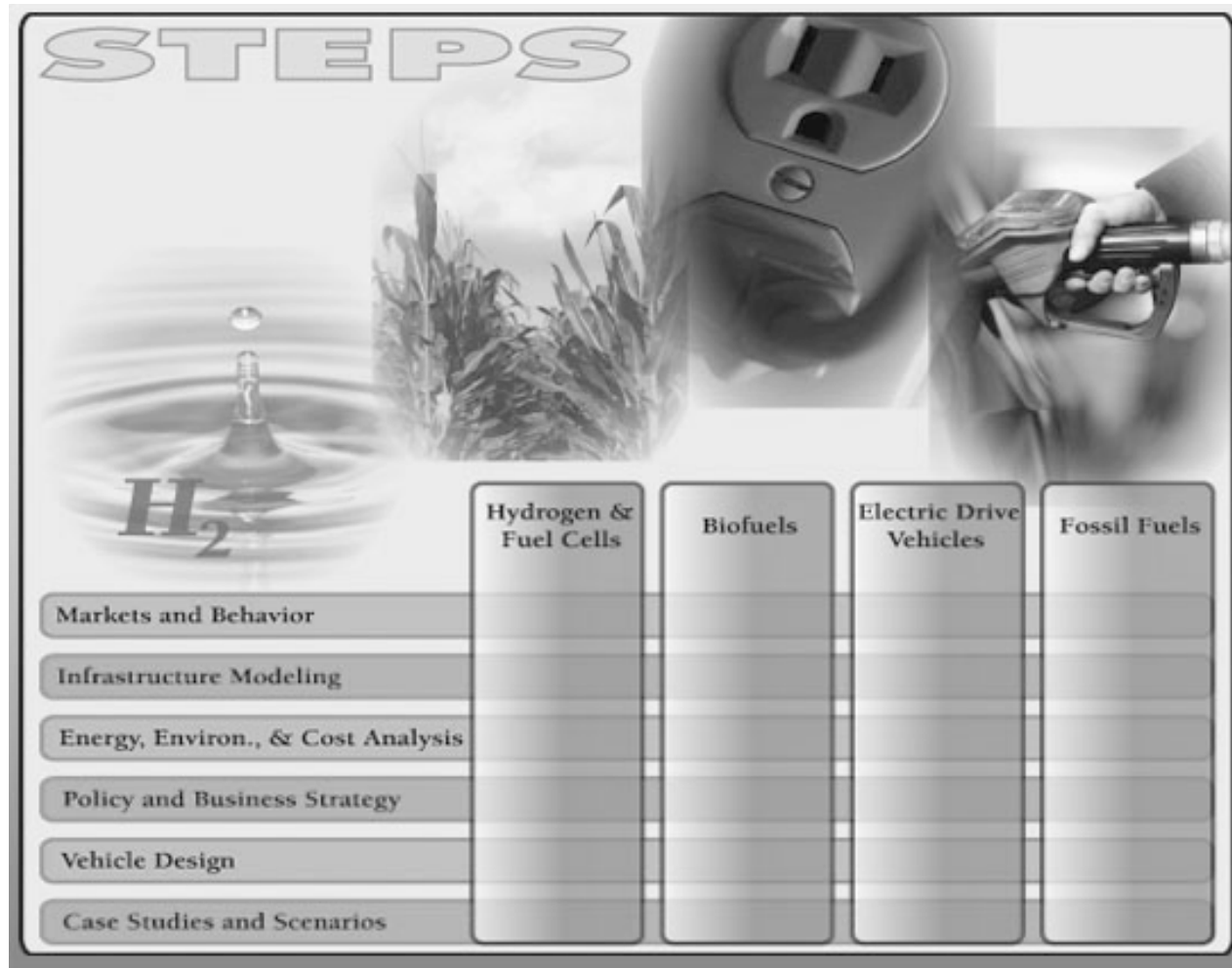


# California Biomass Collaborative

- Established in 2003 under a grant from the California Energy Commission
  - Mission to support the sustainable management and development of biomass in California
  - Addresses multiple aspects of a diverse resource base and industry
    - Electricity generation, fuels, bio-based products, resource management, infrastructure

<http://biomass.ucdavis.edu/>

# UC Davis Institute of Transportation Studies Sustainable Transportation Energy Pathways (STEPS)



# The Bioenergy Research Group at UC Davis

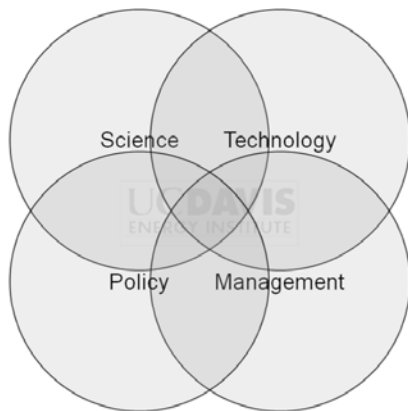


**UC Davis**

## Bioenergy Research Group (BERG)

- 100+ researchers
- Research Committees
  - Molecular and Cellular Chemistry, Biology, and Genetics
  - Plant and Microbial Systems
  - Biomass Production Systems
  - Process and Systems Engineering
  - Resource Management and Environmental Quality
- Foundation of Bioenergy Research Center as part of UC Davis Energy Institute
- Contact: Prof. David Neale, chair  
[dbneale@ucdavis.edu](mailto:dbneale@ucdavis.edu)





**Further information:**

**UC DAVIS**

**UC Davis Energy Institute:**

**<http://energy.ucdavis.edu/>**

**email: [energy@ucdavis.edu](mailto:energy@ucdavis.edu)**

**Bryan M. Jenkins, Professor and Director**

**Email: [bmjenkins@ucdavis.edu](mailto:bmjenkins@ucdavis.edu)**

**Phone: 530-754-8531**

**Billy R. Sanders, Executive Director**

**Email: [brsanders@ucdavis.edu](mailto:brsanders@ucdavis.edu)**

**Phone: 530-754-7880**

**Carol Kruger, Chevron Program Coordinator**

**Email: [clkruiger@ucdavis.edu](mailto:clkruiger@ucdavis.edu)**

**Phone: 530-754-8561**